## (19) World Intellectual Property Organization International Bureau



### 

#### (43) International Publication Date 13 October 2005 (13.10.2005)

PCT

# (10) International Publication Number WO 2005/094527 A3

(51) International Patent Classification F16H 13/06

 ${\bf (21) \ \ International \ \ Application \ \ Number:}$ 

PCT/US2005/009856

- (22) International Filing Date: 24 March 2005 (24.03.2005)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

25 March 2004 (25.03.2004) US

- (71) Applicant (for all designated States except US): TIMKEN US CORPORATION [US/US]; 59 Field Street, Torrington, CT 06790 (US).
- (72) Inventors; and

60/556,350

- (75) Inventors/Applicants (for US only): AI, Xiaolan [US/US]; 4480 Noble Loon Street, N.W., Massilon, OH 44646 (US). **DEGRANGE, David, A.** [US/US]; 8238 Grayson Green NW, Massilon, OH 44646 (US).
- (74) Agent: SMITH, David, B.; Michael Best & Friedrich, LLP., 100 East Wisconsin Avenue, Milwaukee, WI 53202 (US).

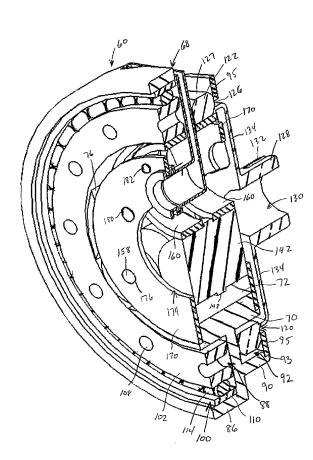
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### **Published:**

with international search report

[Continued on next page]

(54) Title: STEERING WHEEL MOUNTING ASSEMBLY



(57) Abstract: A steering wheel mounting assembly comprising a stationary support carrier (60), first and second drive rings (100, 120), and a drive roller assembly (140). The stationary support carrier defines first (88) and second (92) ring receiving areas. The first drive ring has a first cylindrical raceway, is supported in the first ring receiving area, and is adapted for connection to a steering wheel. The second drive ring has a second cylindrical raceway, is positioned in the second ring receiving area, and is adapted for connection to a steering shaft. The drive roller assembly is supported within the first and second cylindrical raceways and comprises first and second roller planets, a sun roller (142) supported in frictional engagement with the first and second roller planets, a first loading planet (160) frictionally positioned between the sun roller and the first cylindrical raceway, and a second loading planet (160) frictionally positioned between the sun roller and the second cylindrical raceway.

### WO 2005/094527 A3



- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 16 February 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.